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ORIGINAL COMMUNICATIONS.

PHYSIOLOGICAL ACTION OF GELSEMIA AND GELSEMINIC ACID.

BY ISAAC OTT, M.D.

AS is known, Prof. Wormley, of Ohio, was the first to discover these bodies in the *Gelsemium sempervirens*. Lately, Sonnenschein and Robbins* have stated that the acid is like *æsculin*. In the *Philadelphia Medical Times* I published some experiments on the action of gelsemia, which contained no gelseminic acid. Since that time, Drs. Taylor, Berger, Ringer, Murrall, and Burdon-Sanderson have also studied its action. As the literature is somewhat extensive, I will give a short account of the properties of this body as far as discovered.

Action on the Cerebrum.—As Bartholow has shown, the motor nerves and the muscles are not affected; so the seat of the difficulty—that is, want of voluntary movement—must be either in the sensory nerves, the sensory ganglia, the cerebral ganglia, or the motor ganglia. As to sensory ganglia and cerebral, there is in none of the cases collated (thirteen) any presence of unconsciousness, except that of asphyxia; and although patients say that the skin feels blunted in sensibility, it is not sufficient to prevent the motor ganglia from receiving impressions: hence the trouble must be in the cerebro-spinal motor ganglia.

Action on the Spinal Cord.—When fluid extract of gelsemium was given, or gelsemia, Bartholow observed no exaggeration of reflex action. Neither did it occur markedly in any of my experiments, except the first, where is noted "hyperæsthesia and convulsive movements." Taylor, however, noticed it frequently, and Berger compared them to those of strychnia. Ringer and Murrall have also confirmed it. Taylor proved that these movements were spinal in origin. I also wish to suggest that one reason, perhaps, why Berger noticed the tetanus so markedly was that he used an aqueous extract of the root, which would dissolve more of the acid than of the alkaloid. As no observer has studied

the action on the spinal cord with the more accurate means of the physiology of to-day, I made a few experiments with Tilden's fluid extract of gelsemium. The frog was suspended by a wire, after the arrangement of Prof. Bowditch, of Harvard. Then the metronome was arranged to beat seconds, and the time during which the foot remained in an aqueous solution containing a few drops of sulphuric acid was noted. Immediately after the foot was withdrawn it was immersed in water.

Exp. I.—Frog. Cerebrum ablated.

TIME. P.M.	SEC.	
2.40	7	Fld. ext. gelsem., gtt. 3.
2.41		
2.45	5	3 gtt. gelsem.
2.54	3	
2.58	4	
3.06	4	
3.10	4	
3.17	5	Medulla severed.
3.21	4	
3.32	4	
3.54	8	Heart-beat 24 per minute.
4.12		
4.17	18	
4.18	24	
4.19		
4.29	16	
4.31	12	

The gelsemia, like that used in the experiments of my previous paper, was free from gelseminic acid, the proof of which is given farther on.

Exp. II.—Frog. Received a grain of gelsemia subcutaneously at 4.20 P.M. 5 P.M., hyperæsthesia, which continues: no preliminary paralysis observed. 7 P.M., hyperæsthesia very great; losing power over posterior extremities; croaks when touched. 8.14 P.M., losing power over the extremities; lies with them extended; makes struggling movements occasionally; twitching of muscles; makes convulsive movements, and croaks, when touched; respirations now and then. Next morning lies in a paralytic state; makes convulsive movements when pinched; respirations now and then; recovers.

As is seen after the extract of gelsemium, and the alkaloid which was proved to be free from gelseminic acid, there is a rise succeeded by a fall of reflex excitability. To discover if the centres of Set-schenow were affected, either by their excitation, causing a decrease of reflex activity, or their paralysis, causing an increase, the

* Berichte des Deutsch. Ges., Sept. 1876.

action of this drug was studied in relation to its action on the spinal cord separated from the medulla.

Exp. III.—Frog. Medulla severed.

TIME. P.M.	SEC.	
4.50	4	
4.51		Fld. ext. gelsem., gtt. 3.
4.53	3	
5.05	3	
5.07	2	
5.14	4	
5.20	4	
5.21		Fld. ext. gelsem., gtt. 3.
5.32	6	
5.45	6	Heart-beat 20 per minute.

The spinal rise and fall of reflex excitability happens just as when Setschenow's centres were present. Consequently, this action is wholly spinal, as Taylor discovered.

Neither the hemorrhage from the division of the medulla nor the decrease of the heart-beat to twenty per minute will indirectly cause this, as Weil has shown by his very accurate experiments with digitalis.

Action on the Motor Nerves.—Bartholow proved that it had no action on the motor nerves, which I, in common with the subsequent observers, except Berger, have confirmed. Berger thinks that their irritability is reduced.

Action on the Muscles.—Bartholow proved that the muscles were not affected, which is concurred in by the other observers, except Berger, who thinks that there is a reduction of irritability. It is quite true that locally applied to the muscle it may have such an effect, but through the circulatory medium it must be small. The flaccidity of the muscles observed after poisoning is due to the weakness of the motor ganglia, the tonus of muscles being partly dependent on the activity of reflex power.

Action on the Sensory Nerves.—Bartholow found that the sensory nerves were not affected. This has been confirmed.

Action on the Heart.—Bartholow, Ringer, Murrall, and Burdon-Sanderson have stated that it has no action on the heart; but I have shown by more accurate researches that in large doses it reduces the frequency of the heart-beat by an action probably on the excito-motor ganglia. Taylor and Berger have also noticed a small reduction after large doses. While small

doses or therapeutic doses may not have this effect, there is no doubt that large doses do.

Action on the Pneumogastrics.—Like the motor nerves, I have shown that there is no action on the cardio-inhibitory nerves.

Action on the Vaso-Motor Centres.—I have shown that the blood-pressure by large doses is reduced, which fact Berger, working in Heidenhain's laboratory, has confirmed. Sanderson, Ringer, and Murrall have not obtained such a result, because they only made one accurate kymographic observation with small doses. I also demonstrated that although the centre responded to direct irritation, yet I believed that its tonus was reduced as well as that of the heart, thus causing decreased arterial tension.

Action on the Nervus Depressor.—I have shown that its functions are not interfered with.

Action on the Respiratory Apparatus.—Bartholow found that it reduced the respiratory frequency, and I stated that the pneumogastrics did not participate in this action. Berger believes that they do; but Burdon-Sanderson has confirmed my experiments.

Action on the Temperature.—Bartholow has shown that it reduces the heat of the body, which I have confirmed. Ringer and Murrall state that it does not affect the temperature.

Action on Man.—In an analysis of thirteen cases, I find that the action on man is as follows: disordered double vision, ptosis, want of co-ordination in the movements, disagreeable feeling in the head, great muscular relaxation, drooping of lower jaw, tongue stiff, sensation blunted, pupils dilated, respiration slow, irregular, pulse slow, feeble, surface cold and congested, unconsciousness, and death by asphyxia.

Ringer and Murrall have shown that during the diplopia the images of the objects at first in the upper part of field of vision are at different heights, although actually in the same plane. Afterwards the lower part of field of vision is affected. They also showed that in lower animals it produces prominence of the eyeballs.

Bartholow stated that it paralyzed the third pair, and Ringer and Murrall have confirmed this view, stating that it affects the periphery of the nerve before the trunk. Ringer and Murrall think that it affects the

sixth nerve before the third, for the external rectus is the first muscle weakened. Locally it contracts the pupil, according to Ringer and Murrall, and they state that internally it contracts and then dilates.

ARTIFICIAL RESPIRATION.—Berger has shown that artificial respiration will save animals, a fact confirmed by Ringer and Murrall. Ringer and Murrall believe that gelsemium is an antidote to strychnia; but Bartholow controverts this opinion.

ACTION OF GELSEMINIC ACID.

I have made some experiments with gelseminic acid, and compared its action with that of the alkaloid gelsemia. That I might be sure of their absolute purity, I submitted my specimens to Dr. McIntire, formerly Professor of Chemistry in Lafayette College. His report is as follows:

	Gelseminic acid prepared by him.	Gelsemia prepared by Messrs. Hance Bros. & White.
Nitric acid.	Dissolves with a reddish-brown coloration of the particles to a yellow liquid.	Dissolves with a greenish-bronze coloration to a yellowish-green liquid.
Add to the above solution ammonium hydrate, somewhat in excess.	Changes the liquid to a deep-red solution.	Forms a light-red precipitate in a clear liquid.
Solution of sodium hydrate.	Dissolves to a yellow liquid, and even on dilution shows a blue fluorescence.	No reaction.
Sulphuric acid.	Turns a greenish-bronze, heating dissolves it when the heat is very gentle, to a yellow-green color, changing rapidly to a purple when the heat is higher.	Turns brown, dissolving, on the application of heat, to a chocolate color.
Ammonium hydrate to this solution.	Discharges the color.	Changes it to a yellowish-green color.
Nitric acid added to the ammonium hydrate solution.	Changes the colorless liquid to a deep gamboge yellow.	Discharges the color.
Cerium oxidate and sulphuric acid.	Produces no change.	Gives a cherry-like color.

"These tests were all made on solid portions of the substance on approximately the same amount and at the same time, so that the mutual reactions could be compared. The above results show: 1. That the two substances are not identical, nor does either contain any of the other as an impurity. 2. That the reaction attributed by Dr. Wormley with the alkaloid and sulphuric acid (*Journal of Pharmacy*, xlii. p. 12) belongs to your specimen marked acid, exhibits the characteristic fluorescence, and cannot be the alkaloid."

I will add that the color of the acid was yellowish white, of the alkaloid a dirty yellow, that the acid under the microscope exhibited bundles of crystals like Fig. 1, Wormley, that when these crystals were dissolved in ether, and the ether spontaneously evaporated, they presented a fac-simile appearance to those figured by Wormley in Fig. 2.

I find that after an injection of half a grain or a grain of the substance subcutaneously in cold-blooded animals, there followed in all cases hyperæsthesia and tetanus in the course of fifteen minutes, preceded by some disposition to remain quiet, and apparent lessening of reflex excitability. The tetanus began in the posterior extremities and extended to the anterior. The respirations during this time were about twenty per minute, with considerable want of co-ordination in the movements. In about an hour voluntary movement returns, the anterior extremities lose their tetanic state, whilst the posterior extremities retain it till next morning, when there is still hyperæsthesia so great that he is elevated on the tip of his extremities, and croaks greatly when touched. On the third day the animal fully recovered.

The acid has other properties which will be more minutely detailed either by myself or some of my students, this being only a preliminary communication.

The conclusion is that gelsemium contains two bodies,—the acid always increasing and finally paralyzing reflex excitability; the alkaloid doing so in large doses, but not always; and that in tetanic properties the acid is much superior to the alkaloid.

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LITHOTOMY.

BY A. P. CARR, M.D.

IN reading over the report of the Montgomery County Medical Society, my attention has been attracted to the remarks of Dr. Hiram Corson in relation to lithotomy. He says, "This is a world of knowledge and of skill in, and unheard of beyond, the small circles in which many an intelligent and skilled doctor moves." Then he adds, "I was forcibly reminded of this fact last year at our Pottsville meeting, when a physician from one of the mining districts

exhibited a large number (forty, I think) of calculi which he had extracted from the human bladder by nearly as many operations, and with only two deaths, both of which he attributed to the imprudence of the patients." And then he adds, "And yet we have not a written line on the subject."

It is certainly to be regretted that many of us are so negligent in reporting our cases as they occur. I have frequently been asked by members of the profession why I did not report them; but as "procrastination is the thief of time," together with a hard and laborious practice, I have deferred doing so, and had it not been that Dr. Corson's remarks call for them in detail, it is more than likely I would still be unheard from.

Before proceeding further, I desire to say that the doctor must have misunderstood me when he says there were two deaths, both of which I charged to the patient's imprudence. There was only one death which I could charge to imprudence, as will be shown by my article.

The following is an account of my experience in lithotomy. I made my first operation on September 8, 1861, and my last on October 2, 1876. During the fifteen years intervening between these dates I have had forty-five cases, or an average of three cases a year. I performed my first operation after the most singular manner and under the most peculiar and distressing circumstances. In fact, it was so novel in all its details that I cannot but think of the remark of Dr. Hiram Corson when he speaks of the country doctor. He says, "In cities or small towns, if a case shows alarming symptoms, aid is called in,—one, perhaps two physicians,—and the responsibility is so divided that it is not much felt or cared for by either of them. But the country doctor is expected to carry his cases through to a favorable termination, no matter what aspect they may assume." Then he adds, "How intensely does this stimulate him in his work!" This is as true a remark as was ever made; and, as a verification thereof, I will give you a short history of the case under consideration.

On the night of the 8th of September, 1861, I was sent for to visit a child two and one half years of age, who was suffering from convulsions. On my arrival at the house, which was, by the way, about half a mile from my office, I found that the child had not passed water

for some two days. The urine was slowly dropping away, and the bladder was so large and tense that I was afraid it would rupture before I could relieve the child. I had to return home for a small catheter and some chloroform, and after I had returned I placed the child under the influence of the anæsthetic and introduced the catheter as far as the neck of the bladder, when it suddenly stopped, and, to my surprise, there was a stone lodged therein and packed so tightly that I was unable to push it back into the bladder. I did not know what to do under the circumstances. To puncture the bladder would do no good, for the foreign body was still impacted, and must be removed. It was late at night, and I was in a bad way. The idea suggested itself, If I only had a staff I would cut down and extract the stone; but, alas! I had none. I again conceived an idea. I withdrew my catheter, and with the rasp-blade of my pocket-knife I soon succeeded in cutting away enough of my catheter to make a staff. I placed the little patient in the position for lithotomy, hands and feet bound, and, with the assistance of father and mother, operated in the following manner. Point of staff resting on stone, the father held one of the child's knees with one hand, and the staff with the other, while the mother held the other knee; lamp on the end of the table. I made my incision in the usual way, and, after having divided the integuments and fasciæ for the proper distance, I performed most of the after-dissection with my finger and the handle of my scalpel. I then took hold of the staff and bulged it a little, and the father held it in its place reliably and firmly. I then entered the staff a little below the bulb, and carried my knife down to the stone. With the polypoid forceps from my pocket-case I tried to grasp it, but while trying to do so the stone receded and slipped into the bladder. I had not removed the staff at this time, so I carried it into the bladder and enlarged the opening in the urethra, then cautiously dilated it with my finger, which I succeeded in getting into the bladder and in contact with the stone. I then seized it with my polypoid forceps and removed it. The stone was a uric acid calculus, and weighed thirty-six grains; it was about half an inch in length, and shaped like a coffee-grain. I washed out the bladder with a syringe which I procured at the house. I applied some lard to the edges of the wound, and placed the child in bed. I think I gave him a dose of Godfrey's cordial, which I found at the house, and took my departure.

This child recovered without an untoward symptom, being completely watertight in about three weeks. He is now quite a fine boy, and I have the pleasure of seeing him occasionally and of congratulating myself upon seeing that I became a lithotomist without knowing it. I do not

intend giving a detailed history of all my cases, but merely a tabulated statement, with name, residence, nationality, age of patient, and kind and weight of calculus extracted; also a few remarks on preparatory treatment, my mode of operation, the kind of staff that I prefer, and the amount of mortality. I will, therefore, only mention the second case which I operated upon, and the results that followed. On the morning of July 2, 1862, I was walking up Centre Street of our town, when my attention was called by the proprietor of the Washington Hotel, Mr. James Wood, to a little boy about three years of age, who was lying on his back under a shade-tree, with a hold on his penis, and crying in a terrible manner. I went to his assistance, and from all rational signs concluded he had stone in the bladder. I took him home to his mother, who was a widow and wretchedly poor. She implored me to do something for the child, and I told her I would attend to him; she invoked the blessing of heaven on me, and I left. Then for the first time I prepared myself for lithotomy. I ordered some instruments from J. H. Gemrig, Philadelphia, and, with the assistance of Dr. George Brown, of Port Carbon, I operated on this boy with the greatest success, removing a uric acid calculus which weighed eighty-five grains. The boy made an excellent recovery in a short time. I think it was not more than ten days until he was quite well. He is still living with his mother, and in good health. His mother being an English lady, and having a great many friends who were constantly coming to visit the boy from different parts of the county, this operation got heralded about the county and out of the county, and I really got a reputation in this way as a lithotomist before I was fully prepared for it, and whenever there was a case of stone in the bladder, by some means or other they found me out, and I am now at liberty to say that, by the aid of Divine Providence, I was successful in every case but two, notwithstanding the difficulties which I was obliged to surmount in any of them. In 1867 I operated upon Rev. J. D. Jones, of Minersville, a man fifty-five years of age, and removed a large mulberry calculus. He got along very comfortably for, I think, about a week. I was called away to attend my father's funeral. I left my patient under the care of Dr. Beach, but he was a very eccentric man, and the

doctor could not control him. He had an idea that the doctor was not treating him right; so one day he took a large dose of Seltzer aperient, which brought on hypercatharsis, and the old man was seized with a congestive chill while straining at stool: acute cystitis finally setting in, he died. I did not consider this any fault of the operation, and am satisfied that he died from his own imprudence. I also lost a child, four years of age, four days after the operation, from congestive chill. This was a weak child, and of strumous habits. He had frequent chills until he died. His parents said he was always sickly.

I will not undertake to laud my success in this particular branch of surgery, but will leave it to the profession to say whether or not this is a good showing. I never had much trouble from hemorrhage in operating. If the artery of the bulb happen to arise from the pudic opposite the tuber ischii, or if the inferior hemorrhoidal arteries be larger than usual, these vessels crossing the line of incision will be divided. If the superior lateral incision be made too deeply at its fore part, the artery of the bulb, even when in its usual place, will be wounded; and if the deep lateral incision be carried too far outwards, the trunk of the pudic artery will be severed. These facts should always be remembered. I have always found my finger to be the best sort of forceps for making compression when required, especially when it is made cold with ice-water and cooled as often as practicable. I am convinced that after having divided the integuments and perineal fasciæ with the scalpel, as little cutting as possible should be done. I usually make my first incision long, and down below the anus, so as to have plenty of room for the free discharge of urine; then with my finger and the handle of my knife I tear rather than cut my way down to the bulbous urethræ. In this way I have, I am satisfied, saved myself much trouble from hemorrhage. After I have reached the bulbous urethræ I enter the staff with my knife, midway between the bulb and the prostate, and after I have made sufficient room I carry my finger into the groove of the staff (which should always be as large and the groove as wide as possible, as it materially assists in the introduction of the finger), and cautiously dilate until I have got my finger into the bladder. Then, if I find that the stone is very large, I carry a

long, slender, straight, probe-pointed bistoury along my finger, and divide the prostate; if not, I extract the calculus with a long slender forceps. I have then done little more than made a perineal wound. But, I hear some one say, are you not apt to get up palsy of the sphincter muscle by so forcibly dilating it and have incontinence of urine as the result? I answer, No; no more danger than there is in forcibly stretching the sphincter muscle of the rectum with both thumbs for the cure of fissure of the anus. You are far more apt to have urinary fistula from the too free use of your knife; and of the two evils I would choose the former, as in case of incontinence of urine, an accident which never happened in any of my cases, you can apply some mechanical appliance, while in urinary fistula your patient, ten to one, is a sufferer for life. Excluded from society, he drags out a miserable existence, a burden to himself and friends, as was the case with a boy who died in our town some years ago. The boy suffered in this way for many years as the result of a bungling operation. I think he had three or four fistulas, and suffered fearfully for many years, until he died of exhaustion. The placing and holding of the staff in the bladder is of the most vital importance. It should be well hooked under the pubic arch and retained in this position with a steady hand. The knife which I prefer is a small, slender scalpel, with the blade about two inches and a half in length, with a long, slender handle. The finger and the knife should always move together in the deep wound, and the rectum should be kept depressed. When the knife is once in the groove of the staff, I push it obliquely downwards and backwards until I make room for my finger, when I immediately begin my dilating process. My preparatory treatment varies according to circumstances. I usually give my patient a free dose of quinine prior to operating, so as to ward off congestive chill. I give a small dose of oil or some other mild laxative the previous evening, so as to unload the rectum. The hands and feet should be firmly bound together, and the shoulders elevated. The staff, as I said before, should be as large as possible, with a wide groove. You may easily introduce a large staff on a small child by simply dividing the meatus urinarius a little with a sharp pair of scissors. I have had two cases in which the rectum

was wounded; but when this takes place I usually divide the sphincter ani muscle, and I have no further trouble. My object in dividing the sphincter muscle is to allow the feculent matter a free exit, so that it may not be forced through the wound and thereby impede its healing process. If the stone is very large, its extraction may be materially aided by placing the finger in the rectum and pressing gently upwards. I have found this to be the case in extracting a mulberry calculus, weighing six hundred and sixty grains, from a nine-year old boy.

I was assisted in a large majority of my operations by Drs. G. W. Brown, James S. Carpenter, deceased, — Yocum, Sr., William T. Beach, John T. Carpenter, G. L. Regan, Livermore, Thompson, Sherman, and F. D. Smack. I have been obliged on a number of occasions to operate with the assistance of druggists, ministers of the gospel, and intelligent persons whom I could get most conveniently as assistants, many of the patients being so poor as to be unable to remunerate me, much less pay for proper assistance.

My after-treatment is regulated by the exigencies of each case. After the bladder is thoroughly washed out, I generally apply some unctuous substance to the lips of the wound, so as to prevent incrustation of the salts of the urine. I find nothing better as a tonic, if the patient is feeble, than iron and quinine,—muriated tincture of iron preferred, particularly if the urine has an alkaline reaction.

Besides the case already spoken of, I have had but one of acute cystitis. The subject was a young Englishman, from whom I removed a mulberry calculus weighing four hundred and forty-six grains. He made a good recovery. The bladder was washed daily with muriatic acid, vinum opii, and barley- or rice-water, as the urine was extremely alkaline. Treatment, antiphlogistic.

The bowels in every case should be kept in a soluble condition, and perfect cleanliness observed.

I would here remark that since the use of wells has been abolished, and their places supplied with pure mountain-water, this dread disease has been on the decrease. Some sixteen years ago, most of the towns around here were supplied with water from wells. The water was very impure, hard,

and full of chlorides: a small particle of nitrate of silver would instantly change it to a whitewash, so to speak. It also contained sulphurous acid and iron. The last two cases I had for operation were subjects who were constantly using this sort of water. That water has a great deal to do with the formation of stone I am fully convinced, particularly if there is a corresponding diathesis. As a verification of this fact, I may state that in the year 1862, when Peter F. Collins was building the Broad Mountain Railroad, there were several persons down from Scranton, Pittston, and that region, where the water was hard, and I had five cases of stone as the result. The patients were all children. The parents of the children kept boarding-houses along the line from New Castle to Girardville. The

water which they used while here was pure mountain-water, but the children had contracted the disease before they came to this county.

The annexed tabulated statement will give you the cases in detail. I regret that many of the calculi I have been unable to retain, as the parents or friends would not give them up, and others have mouldered down to mere dust, breaking from the slightest cause.

In conclusion, I would say that while I may not have been quite as elaborate on this subject as I perhaps might have been, nevertheless what I have said is true in every particular, notwithstanding the efforts of some of my professional brethren in Schuylkill County to make it appear otherwise.

Tabulated Statement.

NAME OF PATIENT.	RESIDENCE.	NATIONALITY.	AGE.	DATE OF OPERATION.	WEIGHT OF CALCULUS.	KIND OF CALCULUS.
Wm. Hede.....	Wadesville.....	Welsh.....	2 years	Sept. 8, 1861.....	36 grains...	Uric acid.
Henry Brazer.....	St. Clair.....	English.....	3 "	July 10, 1862.....	85 " "	" "
John Fogarty.....	B. M. R. R.....	Irish.....	11 "	May 10, ".....	100 " "	" "
Michal Leahy.....	".....	".....	9 "	June 7, ".....	27 " "	" "
George Gillroy.....	".....	".....	6½ "	Sept. 18, ".....	" "	Not retained.
Pat Brennan.....	".....	".....	5 "	Oct. 1, ".....	26 " "	" "
Reuben Hay.....	".....	English.....	9 "	April 12, ".....	" "	Destroyed.
Thomas Grimes.....	Mahanoy.....	Irish.....	3 "	" 16, 1863.....	20 " "	" "
James McAndrew.....	W. Norwegan.....	".....	3½ "	May 20, ".....	" "	" "
Patrick Mohan.....	New Castle.....	".....	5 "	July 10, ".....	" "	Not retained.
John Powels.....	".....	English.....	4 "	" 17, ".....	72 " "	Thorny.
Patrick Walsh.....	Ashland.....	Irish.....	5½ "	" 19, ".....	" "	Destroyed.
Daniel Gallagher.....	Gordon.....	".....	6 "	Sept. 2, ".....	" "	Not retained.
Wm. Cleary.....	Windy Harbor.....	".....	4½ "	" 11, ".....	81 " "	Uric acid.
Robert Rooke.....	Mahanoy Township.....	".....	5½ "	April 19, 1864.....	" "	Not retained.
Frank Cleary.....	Glen Carbon.....	".....	5½ "	May 5, ".....	49 " "	Uric acid.
John Curen.....	".....	".....	6 "	July 12, ".....	" "	Destroyed.
Thos. Stinson.....	Silver Creek.....	".....	4 "	Aug. 5, ".....	" "	" "
Wm. Beese.....	St. Clair.....	Welsh.....	4 "	Oct. 19, ".....	40 " "	Uric acid.
John Cosgrove.....	Maizeville.....	Irish.....	3 "	Feb. 9, ".....	28 " "	" "
Martin Durkin.....	Delano.....	".....	4½ "	May 10, 1865.....	" "	Not retained.
Thos. Chelacomby.....	St. Clair.....	English.....	7½ "	July 3, ".....	65 " "	Uric acid.
Wm. Ryan.....	Greenberry Valley.....	Irish.....	4½ "	Nov. 8, ".....	" "	Not retained.
Wm. Chapman.....	Gilberton.....	English.....	5 "	Dec. 12, ".....	" "	Destroyed.
Thos. S. Thomas.....	St. Clair.....	Welsh.....	4 "	" 29, ".....	30 " "	Uric acid.
David Metz.....	Lost Creek.....	American.....	5 "	Not certain of date.....	50 " "	" "
Patrick Mulroy.....	Centralia.....	Irish.....	5 "	July 27, 1866.....	82 " "	" "
John McBreyarty.....	".....	".....	13 "	Aug. 15, ".....	465 " "	Mulberry.
Geo. H. Harris.....	Girardville.....	English.....	7 "	" 21, ".....	70 " "	" "
Geo. Williams.....	Ashland.....	Welsh.....	8 "	Sept. 19, ".....	86 " "	" "
Thos. Chelacomby.....	St. Clair.....	English.....	8 "	Sept. 5, ".....	37 " "	Second formation; uric acid.
Matthew Riley.....	Mt. Pleasant.....	Irish.....	5½ "	Oct. 16, ".....	" "	Destroyed.
Joseph Kenny.....	".....	".....	5 "	Aug. 9, ".....	86 " "	Thorny.
Rev. Jno. D. Jones.....	Minersville.....	Welsh.....	55 "	Oct. 28, 1867.....	380 " "	Mulberry.
John Clarke.....	Wadesville.....	".....	6 "	Nov. 7, ".....	68 " "	Uric acid.
James James.....	St. Clair.....	Welsh.....	4½ "	" 19, ".....	56 " "	" "
Thos. Walsh.....	Thomastown.....	Irish.....	4½ "	July 16, ".....	42 " "	" "
Thos. Leahy*.....	Mahanoy City.....	".....	4 "	Oct. 13, 1871.....	310 " "	Mulberry.
E. Sheperd.....	St. Clair.....	English.....	2½ "	" 19, ".....	25 " "	Uric acid.
James Curry.....	Mahanoy Plane.....	Irish.....	4 "	Sept. 17, 1872.....	40 " "	" "
James McDonald.....	Rappahannock.....	".....	8 "	" 29, 1873.....	53 " "	" "
James Brennan.....	Heckschersville.....	".....	5 "	June 17, 1874.....	38 " "	" "
James O'Donald.....	St. Clair.....	".....	9 "	Nov. 9, 1875.....	660 " "	Mulberry.
Irvin Brown.....	North Manheim.....	American.....	4 "	Aug. 28, 1876.....	46 " "	Uric acid.
James Lagar.....	St. Clair.....	English.....	19 "	Oct. 2, ".....	446 " "	Mulberry.

* The boy Thomas Leahy, whom I operated upon October 13, 1871, had a second formation, and was taken to Philadelphia. I was unable to learn the result of the second operation, or the name of the hospital, but I think he was taken to the University of Pennsylvania.

ST. CLAIR, SCHUYLKILL CO., PA.

ELECTRICAL PHENOMENA OCCURRING IN THE HEART.

BY B. F. LAUTENBACH, M.D.

IN making a series of experiments with Professor Schiff, recently, on the action of nicotine, we observed in a number of experiments (on dogs) that after the medulla oblongata had been destroyed at the calamus, movements of the diaphragm still continued, a circumstance which had previously been frequently observed, and which led to the conclusion that the "centre" of the phrenic nerve exists, at least in part, in the cervical portion of the spinal cord, and not wholly in the medulla oblongata. C. Rokitsansky, Jr. (*Wiener Mediz. Jahrbücher*), gives tracings of these movements of the diaphragm.

On examining these movements critically, however, we found them to occur with, or immediately after, the pulsations of the heart, and were able to count the number of pulsations by merely observing the contractions of the diaphragm, though the heart did not touch this organ. When the left phrenicus was separated from the pericardium, the movements of the diaphragm ceased, but recurred when the nerve was placed in its normal position, continuing as long as the contractions of the heart continued; but when the heart's movements have almost or entirely ceased, the contractions of the diaphragm also cease. When now the nerve was brought in contact with the heart and then again removed, a contraction occurred, sometimes with the making, sometimes with the breaking, and sometimes with both the making and the breaking of the contact with the heart, thus corresponding to the effect of making or breaking the connection of a constant electric current.

Thinking that perhaps the current produced resulted from the nerve being brought in contact with the liquid covering the heart, a thin piece of oiled paper was placed between the nerve and the heart; but the contractions still occurred with every beat of the heart.

These contractions of the diaphragm usually occur a very short time after the beat of the heart, but at times this interval was so short that to our unaided senses it did not seem to exist.

Our experiments thus far have been made only on dogs, in whom these phe-

nomena can best be observed after section of the medulla oblongata and of the retarding (*hemmenden*) fibres of the vagi (*i. e.*, the sympathico-vagi trunks), or, instead of the section of the latter, the functions of these fibres can be destroyed by means of atropine. This latter condition we found not to be indispensable, as the *heart-current* was manifest in unpoisoned dogs in whom the vagi had not been exposed.

PHYSIOLOGICAL LABORATORY OF GENEVA, February 12, 1877.

TRANSLATIONS.

PODOPHYLLIN IN THE TREATMENT OF HABITUAL CONSTIPATION.—Dr. Rousselet (*Le Mouvement Méd.*, 1877, p. 57; from *La Gaz. des Hôpitaux*) publishes an article on this subject. The ill success which has frequently attended the use of this remedy is attributed by Dr. R. to the employment of a poor preparation. He thinks the treatment should extend over two to three months, according to the duration of the constipation, in order to induce regular action of the bowels at a certain time of the day. Dr. R. begins with one pill of a centigramme (gr. $\frac{1}{10}$), increasing to two if necessary, and continuing the amount daily during fifteen days. He then gives it every other day for a week, then every three days, and so on, increasing the interval every week or so. Should irregularity again supervene, he recommences the daily dose, diminishing it again gradually as before. The best time for taking the pill is upon sitting down to dinner; and the patient should endeavor to get into the habit of going to stool just after breakfast.

PODOPHYLLIN IN HEMORRHOIDS.—A subsequent number of the *Gazette des Hôpitaux* contains a communication by Dr. Rivière, in which, after agreeing with Dr. Rousselet in his high estimate of the value of podophyllin in habitual constipation, he goes on to express surprise that the latter has said nothing about the virtues of this drug in hemorrhoids. The action of the drug is simply to cause a soft passage on every occasion. The result is remarkable, but only temporary. The treatment must be kept up for many months in order to gain any permanent benefit.

NERVE-STRETCHING.—Dr. Ferdinand Petersen communicates the following case (*Centralbl. f. Chirurgie*, 1876, No. 49).—

A blacksmith, while working, was struck on the right leg by a piece of steel, the fragment burying itself in the tissues. Considerable and persistent pain troubled the patient to such a degree that he insisted upon having an operation performed for the removal of the foreign body. Dr. Petersen found the painful spot to be situated in about the middle of the leg, on the inside, somewhat back of the tibia. He cut down upon it, and explored with needles in various directions, without finding the foreign body. The nerve which had been laid bare in the wound seemed very sensitive. Petersen isolated the nerve, took it up with a hook, and stretched both ends. The wound was then dressed: it healed nicely, leaving the patient without the pain of which he had complained, and able to walk about with comfort. The fragment of steel remained in the tissues, probably encapsuled. x.

POISONING BY STRYCHNIA.—Dr. Lance-reaux (*Le Mouvement Méd.*, 1877, p. 52) gives the history of a case of fatal strychnia-poisoning, which is in substance as follows. A drug clerk swallowed ten to fifteen centigrammes of strychnia. Half an hour later he was attacked by convulsions. He was taken to the hospital, where he received five subcutaneous injections of morphia, but suddenly succumbed during a convulsive attack. In spite of artificial respiration and flagellation, no movement of respiration could be aroused; death had occurred from syncope. Morphia alone was used: there was not time to employ anesthetics by inhalation. The autopsy showed congestion of nearly all the organs, without any particular lesion in any one of them. Chemical analysis showed conclusively the presence of strychnia in the matters contained in the patient's stomach. x.

INFLUENCE OF TRAUMATISM UPON THE DEVELOPMENT OF RHEUMATISM.—Professor Verneuil, in a communication on this subject addressed to the Académie de Médecine, January 11, 1876, formulated the following conclusion: "It is certain that traumatism is capable of awakening the dormant rheumatic diathesis, and of developing its manifestations even in organs previously unaffected. It is even possible that in individuals who have never been attacked by the affection traumatism may bring it about for the first time." In confirmation of this assertion Dr. Terrillon gives (*Le Progrès Méd.*, No. 52, 1876) the case of a youth of fifteen, brought to the hospital

suffering with periostitis of the tibia, in whom acute articular rheumatism accompanied by heart- and lung-complications developed itself almost immediately. A single case, of course, does not count for much; but Terrillon refers to another (*Archives Gén. de Méd.*, September, 1876), and calls upon observers to note similar cases in future. The influence of traumatism in developing latent alcoholism is well known; and there is reason to believe that observation will show a close connection of cause and effect between this condition and other affections. x.

EXPULSION OF THREE ASCARIDES LUMBRICOIDES BY THE MEATUS URINARIUS (*La France Médicale*, 1876, p. 107; from *Nuova Liguria Medica*).—A patient who had shown previous symptoms of worms was seized with severe pains in the anoperineal region, with throbbing and weight, followed by the appearance of piles, to which he was subject. At the same time he experienced a sensation of titillation at the neck of the bladder, which soon changed to a burning feeling and extended along the urethra to the meatus. Debility, dejection, occasional headache, and disturbance of the intellectual faculties, particularly of the memory, were present. Temp. 102°, respiration 38, pulse 100. Rectal and vesical tenesmus. One day, when the patient was more inconvenienced than usual by these symptoms, he passed a lumbricoid ascaris eight centimetres (two and a half inches) in length by the urethra. Subsequently two other worms were voided, one of which was twelve centimetres (nearly four inches) in length. The treatment was tonic, with alkalies for the intestinal catarrh and urethral injections with decoction of male fern. It is supposed that these worms penetrated the bladder after leaving the small intestine, which had descended into the pelvic cavity and was interposed between the rectum and the bas-fond of the bladder. x.

AQUAPUNCTURE.—The editor of the *Canadian Journal of Medical Science* reports against this method. He could not decide which was the worst, warm or cold water. Each separate injection produced a violent, burning, stretching pain in the part, which lasted for three-quarters of an hour and was followed by no relief from the neuralgia.—*The Doctor*.

DRIED eggs are used in the Bavarian army as an article of food.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 31, 1877.

EDITORIAL.

THE ANNUAL OVERFLOW.

SINCE the last editorial was written for these columns, some three hundred and twenty medical students have taken their degrees in Philadelphia. In New York the annual overflow has been not less abundant, and, as with us, has been accompanied with the usual flurry of speeches and dinners, flowers and trumpets. Of this multitude of *Æsculapian* babes but a proportion have sufficient knowledge to make safe practitioners, whilst a considerable minority have been born in a state of ignorance shading from twilight gloom to Cimmerian darkness.

We distinctly do not think that the respective faculties can be blamed for the inferiority of their graduates. As the *Record* puts it, "the shop [naturally] cares more for the number of the customers which it can serve than the quality of the goods which it can offer." If the people whose lives are sacrificed do not care, if the profession whose *personnel* is debauched and whose reputation is sapped is indifferent, why should seven men, *pro bono publico*, sacrifice not only their livelihood but also the reputation which still comes from large classes? It is neither just nor sensible to expect men to throw away at once money and honor. Reform must come from without; and a long step towards that reform would be the development of a healthy public opinion which should make professors feel that a large class bore with it a measure of disgrace, because it was the indication of a low standard, and which would put to shame the pride that now feeds on seeing the

graduation-list swollen by medical fetuses and premature births.

In a recent long editorial the *New York Medical Record* comes to the conclusion that in endowments is to be found the remedy for the existing evil. Much as we favor such endowments, we feel constrained to point out that the greatest munificence can only palliate the evil. So long as the laws and customs remain as at present, even if our chief schools were rendered entirely independent of their classes, the residuum of unendowed colleges would only be stimulated to reduce their standard and gain classes by selling, at the lowest possible cost in labor and acquirement, the right to practise.

In legislation is the only hope of cure. Each State may protect itself; and the action of the two States New York and Pennsylvania would produce a profound general impression. Suppose there was in this commonwealth a governmental board of the proper character examining all who desired to enter into practice: how long would either the Jefferson or the University maintain itself when it was noised about that a considerable proportion of its graduates were annually unable to pass the State board? What is true in Philadelphia is no less true in New York.

The *Record* thinks it hopeless to expect legacies, because medical colleges as institutions of learning are beyond the pale of public sympathy. This ought not to be true, but really is true as things are, because our medical colleges are not institutions of learning, but commercial enterprises,—marts where men sell the right to practise a profession supposed, at least, to be honorable and lucrative, and also a modicum of learning. Such being the case, neither charity nor public spirit calls any man to endow a "doctor-factory" any more than John Smith's store. Let, however, the medical profession persistently and conscientiously represent to the men of wealth the great need of a different state

of things, and friendly rivals to Johns Hopkins University will spring up all over the country. It is the fault of the profession, and especially of the faculties, and not that of the laity, that we have no endowments.

We doubt, indeed, whether the most successful faculties really want endowments, since their professors make even more than their salaries would be in a properly conducted endowed institution, and do far less work.

If the statements of the *Record* are correct, the College of Physicians and Surgeons in New York is a case in point. It sustains a nominal relation to Columbia College, an institution whose trustees yearly add many thousand dollars of saved income to their endowment fund. If the medical school were willing to make its connection an actual dependence, it is intimated that it might be made an actual department of the college. If this be correct, the present faculty and trustees of the medical college are throwing away a golden opportunity; and we trust that Columbia College may soon punish their temerity by setting in action a thoroughly prepared medical department.

THE legislation which is to achieve any good in advancing the standard of medical education must of course be very judicious. Such a bill as that recently before the New York Legislature amounts to very little, since it is based upon the fallacy that an American medical diploma guarantees that its possessor has some fair amount of medical knowledge. The recent law of Alabama is far better, and, although not altogether satisfactory, will probably work well, and will certainly be an important experiment in determining the best practical way of meeting the evil. Without entering into details, suffice it to state that it divides all practitioners into regular and irregular, and requires the first to be examined by the government board in all branches of medicine, and the

last in anatomy, physiology, chemistry, and the mechanism of labor. The examining board of each county is composed of the board of censors of the County Medical Society. There is also a general board, composed of the censors of the State Society. There is under such arrangement a possible danger of a local medical college capturing the general examining board and running it for their own purpose; for this and other obvious reasons all such bills as this should contain a clause rendering professors in colleges ineligible for examining boards. Again, the Alabama law forbids compensation of the examiners. This is a decided mistake. No man so poor that he cannot get twenty-five dollars to pay for a final examination; and unpaid labor is always in the long run a commercial mistake, when the object is not evidently charitable.*

THE *University Herald*—published at Syracuse, New York—of March 12 indulged in a quiet but severe article referring to the College of Physicians and Surgeons of New York. A Mr. —, it seems, after attending half a course of lectures at Syracuse, went to New York and graduated on one course of lectures in the school just spoken of. He, it appears, complied with none of the standard regulations, which require that the candidate "must have attended two full courses of lectures, must have studied medicine three years under the direction of a regular physician or surgeon, have attained the age of twenty-one," etc.

The oddity of this is not that the College of Physicians and Surgeons should have contravened these regulations, but that a medical man could be found in the year of our Lord 1877 who supposed that in any of our colleges these regulations were more than words, mere words,—the outward garment of respectability for appearance' sake.

* For the full text of the bill, see the Medical and Surgical Reporter, March 3.

WE doubt whether there are a dozen doctors in Philadelphia who have the thoughtfulness and humanity to drive their horses without bearing-lines. It is hardly necessary to argue with any one who has knowledge of physiology upon the pathology of bearing-lines: the bearings of the subject are too plain. Although hard of heart and addicted to vivisection, we learn with gratification that the larger number of the leading practitioners of London have done away with this time-honored relic of barbarism.

It is stated that the Sublime Porte has addressed a note, through the President of the Swiss Confederation, to the various governments, requesting that the red crescent may be substituted in the Ottoman field-hospitals for the red cross.

LEADING ARTICLES.

THE FUNCTIONS OF THE NERVOUS SYSTEM.

NO. II.

IN a previous leading article we discussed the function of the spinal cord and of the mesencephalon; to-day the cerebrum claims attention. For many years it has been known that removal of the cerebral masses means to the animal obliteration of the past; and experiments spoken of in our previous article appear to show that all consciousness, and all the mental functions properly so called, originate in the cerebrum. The results of experiments and the teachings of pathology long seemed to indicate that the different portions of the brain acted as a whole,—that there was no localization or differentiation of function. A rude shock was, however, given to this view by Broca's discovery of the localized lesion of aphasia; and subsequently Hughlings Jackson contended that the phenomena of partial convulsions prove that there are motor centres located in the convolutions of the brain. No experimental demonstration was, however, given until 1870. Various observers had found that mechanical irritation of the cerebral surfaces elicited no response; but in this year Fritsch and

Hitzig discovered that the direct application of the galvanic current to certain regions of the cerebral surface was followed by definite and constant muscular movements in various portions of the body. In making these experiments two fine electrodes were placed close together on the brain so that the distance between them was only a fraction of an inch. These results have been confirmed by various observers, some of whom have employed the galvanic and others the faradaic current. There can be no doubt of the correctness of the general facts, however much opinions may vary as to the exact seat of the various regions and as to the immediate causes of the movements. The important point to be first settled is, Are the movements due to the excitement of nerve-centres in the cerebral convolutions, or are they produced in some other way? It has been proven by Dupuy, Carville and Duret, and others, that galvanic currents when applied in the manner practised to the surface of the brain are diffused through the mass. It must be borne in mind, however, that the laws of electrical conduction not only necessitate this diffusion, but that they also insure great feebleness in all the currents which radiate from the main one,—a feebleness which rapidly dies into nothingness as the routes become more and more divergent and consequently longer and longer.

It is contended by Brown-Séquard, Dupuy, and others, that the movements spoken of originate, not in cerebral convolutions, but in nerve-centres at the base of the brain reached by these wandering currents. It has been found that if the gray matter of the convolutions be removed, galvanic irritation of the white matter beneath still elicits the movements. This, however, does not justify the deduction, which has been made, that therefore the movements do not normally originate in the gray matter. Galvanic stimulation of a nerve below its centre habitually gives origin to the movements produced by that centre; and consequently, if the movements originate in the cerebral surface, we would *a priori* expect them to be produced by irritation of the white matter beneath.

Again, we have knowledge of the effects of irritation of the basal ganglia, and these do not correspond with the results of galvanization of the brain-surface. It is impossible to produce localized movements by the galvanization of the corpus striatum, of

the optic thalamus, or of the corpora quadrigemina. When to these data are added the facts—that galvanization of one portion of the cortex produces localized movements, whilst the same stimulus applied to other portions nearer to the basal ganglia than are the first fails to elicit response,—and that during anæsthetization there is a time when the function of the brain-surface is suspended although that of the basal ganglia is not, and when, consequently, galvanic irritation of the cerebral surface fails to elicit the usual contractions although galvanic irritation of the basal ganglia provokes movements as in the normal animal,—it seems to be most probable that there are local centres in the cerebrum which, directly or indirectly, preside over movements.

This conclusion is certainly being confirmed by pathological studies, cases cropping up in which localized lesions have produced localized symptoms.

There is one fact, however, which requires a suspension of judgment, as to the so-called motor centres of the cerebral convolutions being absolutely or simply motor centres. It has been found that artificial local lesions are followed by local palsies, corresponding to the results following galvanic irritation of the brain; but Hermann (*Pflüger's Archiv*, x. 77), Carville and Duret (*Arch. de Physiol.*, 1875), and other observers have shown that these paralyzes are not permanent. The last-named observers also found that the recovery of motion was not owing to a substitution of the hemispheres, for when a right-sided palsy due to a left-sided injury of the cerebrum had been recovered from, the injury of the right side of the brain produced only a left-sided palsy, and was not followed by a return of the right-sided palsy.

It may be that these so-called centres in the cerebral convolutions are really centres of thought or of recognition of sensation, and that the movements and palsies produced by them are because certain acts have become associated with certain thoughts. That they are not the sole governing centres of the motions they are connected with seems to follow from the experiments already alluded to, as well as those of Golz, who found that when even the greater portion of the gray matter of one hemisphere was removed by washing with water, an almost complete recovery was possible.

CORRESPONDENCE.

NEW YORK, March 17, 1877.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR,—At the February meeting of the County Medical Society, a paper showing careful research and extended observation, on the subject of the relation of the urinary organs to puerperal diseases, was read by Dr. Wm. M. Chamberlain, one of the accoucheurs to Charity Hospital. Among the cases he described were erysipelatous, lymphangitic, diphtheritic, and metastatic, urethritis, cystitis, or nephritis (or all three combined); the extent of the urinary tract involved varying, of course, in different instances. As a result of his observations, he made the statement that in deaths from puerperal causes the urinary organs are diseased in a larger proportion of cases than the uterus and its appendages. Out of twenty-one such deaths occurring consecutively at Charity Hospital, there were distinct lesions of the kidneys in nineteen, of the bladder in eight, and of the uterus in eleven cases, found at the autopsies. The condition of the blood in pregnant and puerperal women seems to directly predispose to trouble in the kidneys.

Prof. Fordyce Barker, after commending the paper very highly, spoke of the tendency in the profession to localize the lesions of puerperal fever, and said that he still held with the minority (a minority which, however, he thought was not as small as it used to be), that puerperal fever is a general, constitutional disease, without *special* anatomical lesions. But, nevertheless, we must not overlook the special local symptoms in any individual case, as had sometimes been done to the jeopardy of the patient's life. The local manifestations ought, as a rule, to be most carefully treated, as well as the general condition. He then went on to say that he wished to add one or two points from his clinical experience by way of supplement to Dr. Chamberlain's paper, but did not propose to discuss its views, except upon the single incidental point of the use of the catheter, in regard to the evils resulting from which the speaker had quoted some distinguished German authorities. There is, said he, a certain halo surrounding these high-sounding Teutonic names which inspires us with not a little reverence and awe; but, with all due respect to the authors mentioned, he was confident that the catheter ought to be used far more frequently than it is, and that any evils that might in particular instances attend its employment were overbalanced a hundred-fold by the good effects resulting therefrom. In this connection he related a very interesting case of secondary hemorrhage after labor, resulting from an over-distended bladder, in which, notwithstanding the fact that the patient had frequently passed small quantities of urine, he drew off nearly two

quarts with the catheter. Not infrequently, he said, he was called to see, in consultation, patients three or four weeks after confinement, who were suffering from great mental depression, feverishness, nausea (with or without actual vomiting), hypogastric pain and tenderness, and constant and most distressing vesical irritability, and yet who were found, on inquiry, to pass their urine in natural quantity. This condition, he had ascertained, was due to the decomposition of a small quantity of residual urine remaining in the bladder, and could be entirely relieved by the use of the catheter about three times in the twenty-four hours for a few days. He had never seen it alluded to by any author, and in his clinical lectures at Bellevue Hospital in 1865 he had given it the name of *puerperal ammonæmia*. The affection was, in fact, due to an excess of ammonia in the blood, resulting from retention and decomposition of urine in the bladder. He had met with it also sometimes in men, as well as in females not in the puerperal state. In some instances the lining membrane of the bladder was affected thereby to such an extent that the catheter, on being passed, would soon become completely choked up by flocculi of mucus.

In conclusion, Dr. Barker alluded to *peri-nephritis*, which Dr. Chamberlain had not touched upon, and which he had never seen referred to by any author as a puerperal lesion. He had met with it not only in epidemics of puerperal fever, but also sporadically, and he now described in detail three of the latter cases. All were severe, and one of them terminated fatally. This supplementary notice of puerperal ammonæmia and peri-nephritis, he trusted, would serve to make the admirable paper of the evening in a great measure complete.

After a few remarks by Dr. Mary Putnam Jacobi on various points which had been brought up, Dr. Chamberlain stated that his object had been simply to show that the symptoms connected with the urinary organs were not infrequently the leading or even sole factors in cases of puerperal fever, and that renal difficulty often remains long after all other symptoms have disappeared. As regards peri-nephritis, he had met with it in thirteen of his cases, but in none of them was it as severe as in the three related by Dr. Barker.

At the last meeting of the Neurological Society, March 5, "*The Pathology and Morbid Histology of Chronic Insanity*" was the subject of a paper by Dr. Edward C. Mann, late Medical Superintendent of the New York State Emigrant Insane Asylum. He spoke first of some of the general characteristics of chronic insanity, such as the want of symmetry in the two sides of the cranium, the shrivelled ear of the insane (*hematoma auris*), etc., and then went on to speak of the changes in the meninges of the brain and in the organ

itself. He had not attempted, he said, to produce an exhaustive treatise on the subject, but simply wished on this occasion to announce some of his own personal observations. As a rule, he found the brain to be anæmic, atrophied, and indurated, at the autopsies he had made. The principal point to which he directed the attention of the Society was the deposits of lymphoid cells, and also of the red corpuscles of the blood, which he noticed to be very generally present. In their causation, he said, there were two factors prominent: 1, the undue preponderance of white blood-corpuscles, impeding the circulation to a great extent; 2, the consequent dilatation of the vessels.

These conditions were favorable to the escape of corpuscles and the formation of these deposits; to which he regarded the induration and, later, the disintegration of tissue so frequently noticed as due. He was of the opinion that this might throw some light on tuberculosis in certain cases; for he considered tuberculosis and insanity as correlative diseases, and often mutually convertible. So, also, different forms of skin-disease he thought correlative to insanity. He reported in detail several cases of dementia with paresis, in which the autopsies revealed lymphoid deposits, pigmented cortical corpuscles, and thickening and tortuosity of the arteries; the latter being due to the continued hyperæmia occasioned by the general obstruction of the capillaries. At the conclusion of the paper Dr. Mann exhibited a number of very fine micro-photographs, illustrating the various points upon which he had been treating.

Dr. Hammond inquired if he had met with hallucinations in connection with derangement of the senses of sight and hearing, and related a case of this character in which a small clot was found in the optic thalamus after death. Dr. Mann replied in the negative.

Dr. John C. Peters, the President of the Society, then related the case of a lady who was totally blind for sixteen years before death, with pigmented and atrophied retina, who at times had the most extraordinary hallucinations of sight (though none of sound), which rendered her really insane for the time being. The attacks were preceded by pain and irritation about the eyes, and he had supposed that the seat of the trouble was to be referred to the tubercula quadrigemina. No post-mortem examination was permitted in the case.

Dr. Spitzka took exception to the writer's regarding pigmentation of cortical cerebral cells as characteristic of the chronically insane; for this, he said, was frequently met with in perfectly sane and healthy persons, and sometimes was very extensive in those who had suffered from malaria, the mind being totally unaffected. The induration and twisting of the blood-vessels which Dr. Mann had

also described as characteristic of chronic insanity he considered altogether normal, or at least very common, in those over twenty years of age,—believing it to be the result of the various hyperæmias to which almost every one is subject from time to time. He differed from Drs. Hammond and Peters in locating the lesions producing hallucinations in the optic thalami and tubercula quadrigemina; neither of which he considered registering tracts. The hallucinations, he thought, really proceeded from the posterior lobes of the brain, and implied only functional derangement.

Dr. Samuel A. Raborg, at the last meeting of the Medico-Legal Society, made a forcible plea for the separation of the departments of Charity and Correction in this city, and showed some of the evils and abuses which arise from the present system of associating the deserving poor with the criminal classes. The poor, he thought, ought to be under the charge of a commissioner of charities, whose appointment should be taken out of the domain of politics, and who should have the assistance of an advisory committee composed of the best and most philanthropic citizens; while all criminals should be given over to the heads of the police department.

The principal event of the last meeting of the Public Health Association was the reading of an interesting paper by Charles Barnard, Esq., on "*Provident Dispensaries*," in which he spoke particularly of those of Manchester and Salford, in England. There these institutions had from eighteen to twenty thousand members, and the attendance at the free dispensaries had decreased forty per cent. in consequence. Afterwards a committee was appointed for the purpose of considering the feasibility of organizing a provident dispensary here.

Dr. Knapp has recently reported, at the Academy of Medicine, two hundred cataract-extractions made according to the Von Graefe method.

At the Medical Journal Association, Prof. Fessenden N. Otis has read a paper on *chan-croid*, in which he contended that there was nothing specific about the venereal ulcer, its peculiar character being due to the special irritation incident to the circumstances under which it was contracted, and that its severity was proportionate to the amount of this irritation.

The annual horde of newly-fledged M.D.s has once more been let loose upon the community from the medical schools here. Bellevue Commencement occurred at the Academy of Music, February 21. There were one hundred and forty-seven graduates. Elisha D. Lef-fingwell, of New York, was the valedictorian, and the address was delivered by President McCosh, of Princeton College. The University Commencement was held at the same place on the preceding evening, when one hundred and fifty-seven medical diplomas were given

out, and the address to the graduates was made by Bishop Quintard, of Tennessee. The class valedictorian was Albert G. Paine. The Commencement of the College of Physicians and Surgeons came off March 1, at Steinway Hall, and, as on each of the above occasions, the clerical profession was called upon for the address. This time it was Bishop Coxe, of Western New York. There were one hundred and eighteen graduates, and George A. Edwards, of New York, was the valedictorian.

It will be noticed that the University bore off the palm in point of numbers this year; and this is no doubt to be attributed, in part at least, to the superior attractiveness of its gorgeous new building. Dr. McCosh, and Dr. Paine, the University valedictorian, both advocated in their addresses the endowment of the medical colleges and the raising of the standard of medical education.

The Faculty and Alumni dinners have also passed off in their usual festive and exhilarating manner. The Bellevue Alumni prize was taken by Dr. Andrew R. Robinson, and the gold medal of the University Alumni by Dr. Ghislani Durant. The latter was given for the best résumé on the subject of Pulmonary Consumption, and was the third prize that Dr. Durant has taken. In 1861 he obtained the Valentine Mott gold medal at the University, and in 1871 the prize of the New York State Medical Society.

The Rev. Dr. Crosby, Chancellor of the University of New York, who is connected with the Wellesley College for Women, near Boston, and is one of the Vice-Presidents of Vassar College, has for some time been making arrangements to open the doors of the University to the fair sex and thus give them an opportunity to acquire the benefits of an advanced course of study upon equal terms with the young men. The faculty agree with him in his views in this respect, and at the February meeting of the Council the matter was broached and permission given to report a plan of operation. At their next meeting, which occurs in April, the matured plan will be submitted. The design is to give young women opportunity to study all the branches they may desire in law, medicine, science, or literature, and to give them as perfect facilities and as thorough instruction as is enjoyed by male students. It is proposed to use the same rooms for the young women; but they will attend at different hours.

The medical students of the University have recently had the unusual privilege of being present at the autopsy of a murdered Chinaman who lived for several hours after having his cranium terribly smashed up with a hatchet and a considerable portion of his brain thereby exposed, and also at that of the white whale (or Beluga dolphin) which died at the aquarium, of double pneumonia.

The annual meeting of the Directors of the Nursery and Child's Hospital, the institution

for whose benefit the grand charity ball is given every winter, was held early in March, when it was announced that 1190 inmates were cared for at the country branch on Staten Island, and 1043 at the city nursery, during the year. The report states that it has been found necessary to give up the recent extension of care to "street cases," or pauper women taken in labor on the street. There is no hospital for receiving such cases in the city at present, and they are compelled to wait for transfer to Blackwell's Island; but the nursery wards are filled to overflowing, and the attending of street cases, undertaken at the urgent instance of the Commissioners of Charities and Correction, is therefore necessarily withdrawn.

Miss Dancer, the daughter of a noted gambler of great wealth, recently died and left \$335,000 to the different charities of the city, quite a large share of the sum being received by hospitals, dispensaries, and other medical institutions.

The only alarming epidemic that seems to be prevalent in New York just now is the blue-glass mania, and in view of its rapid spread one of the morning papers appropriately asks, Why not build large conservatories of the glass and put the doomed Spitz dogs of the country within them? This would have a double advantage: all the dogs would be cured of their madness, and might even be developed into innocent "blue Skyes;" and we should also dispose of the glass, which is otherwise likely to become such an intolerable nuisance.

The principal event of interest that has of late occurred in the medical world here has been the formal opening of the elegant new building of the New York Hospital, which took place last evening. It is on Fifteenth Street near Fifth Avenue, and cost an enormous sum of money. It is built of pressed brick trimmed with brown sandstone, and is one hundred and seventy-five feet long and seven stories in height. No pains or expense have been spared to have it as perfect in every respect as it is possible to construct such a building. The ceremonies of the opening last night were of a very simple character, consisting only of an address in Chickering Hall, which is near by, by Dr. Wm. H. Van Buren, and a visit to the various departments of the Hospital by the audience afterwards. In the course of his remarks the speaker said he would rather be sent into one of the private wards of the New York Hospital for treatment, in case of a serious accident, than be received into the most luxurious mansion on Fifth Avenue. Everything about the new building certainly opens *coulour de rose*; but the proof of the pudding is in the eating.

It is not long since the obstetricians of Charity Hospital were boasting about the immunity of their wards from puerperal fever, on account of the extraordinary precautions

which they took to avoid it; but now, according to all accounts, they "have got it bad" there.

Dr. Daniel H. Kitchen, who for the last two years and a half has been Chief of Staff at Charity Hospital, has resigned this position to accept that of Medical Director to the Inebriate Asylum at Binghamton.

Captain Lahrbusch, who served for many years under the Duke of Wellington, but has long been a resident of this city, has just celebrated his hundred-and-eleventh birthday, and until quite recently has preserved all his faculties perfectly, as well as an extraordinary degree of physical vigor.

The distinguished surgeon Gurdon Buck died on March 6, in his seventieth year, after a long and painful illness. His achievements are too well known in the profession everywhere to need any chronicling here.

PERTINAX.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 11, 1877.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Peanut-shell from the trachea. By Dr. J. SOLIS COHEN.

ONE-HALF of a peanut-shell, $1\frac{1}{2}$ inch by $\frac{3}{4}$ inch, was inhaled into the trachea of a working-man, 25 years of age, on Christmas-day, 1875, and was coughed up, entire and uninjured, February 15, 1876. During this period the patient had a good deal of cough, which was not supposed to have been due to the presence of a foreign body in the air-passage: indeed, the circumstance of the accident had been forgotten. He became considerably emaciated also, having lost forty-five pounds in weight.

After the spontaneous expulsion of the foreign body there was occasional cough and spitting of blood, especially after work (boiler-making) that required him to stoop. The patient was sent to Dr. Cohen (August 22, 1876) by Dr. B. H. Detwiler, of Williamsport, Pa., for examination to see if any ulceration could be detected in the trachea, but there was only evidence of general congestion. Treatment appropriate to the restraint of hemorrhage and relief of cough was instituted, and on January 4, 1876, Dr. Detwiler forwarded the specimen to Dr. Cohen, stating that the patient is well.

Coffee-bean from the external auditory meatus. By Dr. J. SOLIS COHEN.

This coffee-bean was removed a few years ago from the external auditory meatus of a young lady, who had carried it in that position for more than fifteen years, the only annoying symptoms being hardness of hearing,

which increased to deafness for that ear in damp weather, and was sometimes accompanied by severe neuralgic pains. The nervousness of the patient rendered the administration of an anæsthetic necessary in order to remove it with the curette. The specimen shows little change from its long sojourn. There were no permanent unfavorable results from it, the hearing becoming normal soon after its dislodgment.

Osteitis of the femur, showing ulcerations along the shaft and through the neck without injury to the articular cartilages of the hip-joint. By Dr. H. LENOX HODGE.

The girl from whom this specimen was removed was 15 years of age. She had always been delicate, and there was a family history of consumption. She began to complain of her hip in August, 1875, and was admitted to St. Joseph's Hospital in October, 1875. She remained there eight weeks, and upon leaving fell from a street passenger car, and the pain at once became worse. She was then admitted to the Presbyterian Hospital. She was extremely anæmic and weak. Her skin was almost perfectly colorless, and her pulse very rapid. She had hectic fever, with profuse perspirations. She died in March, 1876.

The neck of the femur is ulcerated through, and but little remains of the head, while the articular cartilage remains sound and is attached to the neck by the periosteum on the under surface. The articular cartilage on the acetabulum, and even the round ligament, was not diseased. The osteitis of the femur extended along the shaft for half the length of the bone, showing itself in softening and in many ulcerations upon the surface. There are also exostoses around the base of the great trochanter.

Carcinoma recurring in the vicinity of a cicatrix left after excision of true epithelioma in the axilla. By Dr. RICHARD A. CLEEMANN.

These two specimens are examples of different forms of epithelioma: they were removed from the same patient, the one with the counsel and assistance of Drs. D. Hayes Agnew and C. T. Hunter, on April 2, 1875, and the other, after an interval of twenty-one months, a week ago (January 3, 1877), by Dr. Agnew, aided by Dr. Hunter and myself. The growth, for the removal of which the first operation was performed, had been noticed for the first time four years before its excision. The patient, being then abroad, in Brussels, had consulted there a medical man, who had prescribed some application, which she was under the impression had removed the difficulty: after a while, however, she perceived the "lump" again, and for some months previous to the operation it had been growing more rapidly in size. At the time of its removal it was situated in the left axilla, rather to its anterior border, imbedded, as it were, in the skin and immediately subjacent tissue, rising above the surrounding surface, with its base extend-

ing beneath the whole mass nearly an inch in thickness; in contour it was generally circular, about one and a half inches in diameter, and felt of firm consistence; its surface was uneven, "bossilated," the skin covering it smooth and florid in color over a third of its extent, over the rest natural in appearance or merging into various degrees of the darker hue; in an angle of the little eminences, from a "crack," a small quantity of bloody-looking fluid exuded, which trickled over the side when the tumor was handled. There was an unpleasant tingling sensation occasionally complained of by the patient, but no positive pain in the growth. The sufferer is a lady, about 70 years of age, of delicate appearance, having been considered all her life as having "weak lungs;" but she is said to come of a long-lived stock, and seems to be possessed of strong vitality. The lower portion of the wound caused by the extirpation of the growth healed without difficulty or delay, but a slough formed in the cellular tissue beyond the upper part, which did not entirely separate until the beginning of the fourth week after excision; seven weeks more elapsed before the patient could declare herself as feeling in perfect health, with only a superficial linear ulcer in the flexure of the axilla remaining; this latter was three weeks longer in cicatrizing, making the whole period of recovery about three months.

Subsequently the patient enjoyed excellent health, but in April of last year, twelve months after the first operation, she observed another "lump" in the axilla. This I examined in the following June: it was then about the size of a hazel-nut, of stony hardness, round, and loose beneath the skin, not connected with the cicatrix left by the excision of the original tumor, but somewhat anterior to its upper part; six months afterwards the growth had reached the size of half a hen-egg, was still hard, and had become somewhat tender; it was situated just along and under the edge of the great pectoral muscle forming the anterior fold of the axilla. When this tumor was removed it was found to be composed of a half-dozen hard roundish bodies of varying sizes from that of a split pea up to that of a marble: these were so closely apposed to each other as to have seemed to constitute but a single mass; they resembled a "pleiad" of enlarged lymphatic glands. The adjacent border of the left mammary gland to which the growth extended was removed with the morbid tissue, and is easily recognized in the specimen.

Among the points of interest suggested by these specimens and their history, I will call attention to three. 1. The axilla is considered a rare location for epithelioma. Yet there is one factor recognized as playing an important part in the production of this growth, which might be expected to be present in this situation, a *repeated or constant irritation*, arising from the retained and therefore decomposing

secretion of the large sweat-glands. The thickness of the tumor and the unchanged appearance of the greater part of the skin covering it lead me to infer that the morbid process first invaded these appendages of the integument, and afterwards involved the surface. 2. The second growth removed was not in a line between the position of the first and the root of the neck, which is the course of the lymphatic having an anatomical relation to the primary seat of the disease, but was situated rather downwards and forward towards the mammary gland. Such a location suggests to me that the latter development was due to the rather wide-spread infiltration of tissue with morbid elements which may surround epitheliomata, a zone the extent of which our naked senses cannot justly estimate, since to the touch and unaided eye the adjacent structures appear perfectly normal. That a recurrence of the growth did not show itself in what would seem the natural direction was due perhaps to the sloughing which took place there. 3. Was the reputed disappearance of the tumor in the first instance an error of observation? I think the morbid mass may have decreased in size at that time, giving rise to the impression of cure, such diminution having been due to the resolution of a temporary inflammatory engorgement; for I have now under observation a tumor which I believe from history and gross appearances to be epithelioma, no opportunity having been afforded for microscopical examination, in which such a process has recurred; and the same is known to be true of other morbid growths.

Report of Committee on Morbid Growths, February 8, 1877.—"The specimen of morbid cutaneous new formation presented by Dr. Cleemann, and referred to the Committee on Morbid Growths, shows upon microscopical examination great enlargement of the papillæ, and the projection of pegs composed of epithelial cells into the subcutaneous cellular tissue; therefore, an epithelioma.

"The subcutaneous nodule also presented by Dr. Cleemann, upon microscopical examination exhibits in places collections of large irregularly shaped epithelial cells, placed in alveoli; the walls of the alveoli composed of dense fibrous tissue. Upon removing the cells by brushing a thin section, the alveolar arrangement of the fibrous tissue became quite evident. Lymphadenoid tissue is also seen in the section. Having such a structure, the new formation may be considered a carcinomatous infiltration of a lymphatic gland, variety scirrhus."

General tuberculosis of serous membranes.

J. N., colored, æt. 26, single, nativity Philadelphia, occupation laborer, was admitted to the medical wards of the Philadelphia Hospital, November 2, 1876. He has had chancre, but no history of any secondary symptoms.

When admitted, he complained of shortness of breath and a slight cough.

Pulse 110 per minute; some fever, but the temperature was not recorded. Upon examination a slight effusion was found in both pleural cavities; belly very tympanitic, and a small amount of effusion in the peritoneal cavity. Feet and legs cedematous. Patient had great pain in the abdomen, which was not much increased on pressure.

Urine passed was much less than normal in quantity, highly colored, and albuminous, containing hyaline and granular tube-casts.

The patient was placed upon jaborandi and infusion of digitalis, which seemed for a time to give some relief; but he soon grew worse, and died January 1, 1877, during the service of Dr. Wilson. The above history has been kindly furnished by Dr. Loder, resident physician in the Hospital.

Autopsy, thirty-six hours after death; slight rigor mortis; body not well nourished; brain and its membranes normal; heart and pericardium normal; no tubercular deposit in the lungs. The bronchial glands were much enlarged, and some of them had undergone a caseous degeneration. There was an extensive tubercular deposit over the whole of both pleural membranes, the membranes being very much thickened. The left pleural sac contained two pints, and the right one pint, of a straw-colored fluid. There were also extensive adhesions on both sides.

Liver about normal in size.

Spleen about normal in size, with a few points of deposit somewhat softened.

Kidneys were pale, and had the appearance of being fatty; the left contained a cyst about the size of a chestnut. The peritoneum was the seat of an extensive tubercular deposit both on the visceral and parietal layer. The peritoneal sac contained eight pints of a straw-colored fluid.

There were strong adhesions, some of which formed complete sacs, the largest one being on the right side.

The parietal layer of the peritoneum was so strongly adherent to the internal organs that it was torn loose with difficulty, especially from the liver and spleen. The intestines were matted together, and the omentum very much thickened.

Dr. FRED. P. HENRY asked whether there was any inflammatory focus which could have been the starting-point of infection of the tuberculosis.

Dr. LODER replied that the man had had syphilis, and that there was enlargement of the lymphatic glands of the neck.

Dr. HENRY inquired as to the condition of the mesenteric glands, and alluded to a specimen of peritoneal tuberculosis which he had presented to the Society about two years ago. The patient from whom it was taken had died in a state of collapse from the effect of a most intense colliquative diarrhœa, utterly uncon-

trollable by remedies. The visceral peritoneum was "shagreened" with miliary tubercles, but the mucous membrane of the whole intestinal tract was perfectly healthy. The mesenteric glands were greatly enlarged, especially at the lumbar attachment of the mesentery, where several of them were united into a tumor of about six inches' circumference. At the time of presenting the specimen, Dr. H. had suggested as the cause of the diarrhœa a sympathetic nerve-paralysis due to pressure by the glandular mass. This view is supported by the physiological experiments of Moreau, who found that section of this portion of the sympathetic was followed by profuse serous transudation into the intestine. In the case under consideration no mention is made of the condition of the mesenteric glands; presumably they were not enlarged; there was also no diarrhœa; which facts taken together furnish additional evidence in support of the theory of a paralyzing pressure as a cause of diarrhœa in these cases.

Dr. E. O. SHAKESPEARE, under whose direction the autopsy was made, said no lesions of the cerebral membranes or of the pericardium were observed. The large caseous mass which was at first thought to be a cheesy degeneration of the proper lung-substance was on careful inspection found to be an enormously enlarged lymphatic gland which had undergone a cheesy metamorphosis. It was situated just within the root of the lung, and was attached to and partly enveloped one of the large bronchi.

There was also a very large mass of glands at the back of the trachea, much enlarged, and in a state of cheesy degeneration, which had probably existed for some time. The *thymus* gland at the anterior part of the trachea was also much enlarged, being one and a half to two inches in thickness. Dr. S. was not prepared to speak positively of the theory of caseous inoculation; but, if it be necessary to apply it to this case, it may be said that any one of these seats may have been the focus of infection, although it is hard to say whether the glands were first involved or whether the inflammation extended from the pleura to the peribronchial glands. It is very easy to conceive that the disease had its origin in the abdomen, either in enlarged mesenteric glands or the omentum itself, which was thickened and seems longest to have been affected with the inflammatory state. It is also very easy to imagine an extension of the pathological process by means of the lymphatic connection existing between the peritoneal and pleural cavity, between the pleural cavity and the peribronchial glands, and between the diaphragm and the glands in the anterior and posterior mediastinal space. The apparent limitation of the lesions to the structures in the course of this lymphatic circulation would seem to give some plausibility to this side of the question.

REVIEWS AND BOOK NOTICES.

THE MICROSCOPIST. Third Edition, rewritten and greatly enlarged. By J. H. WYTHE, M.D. Philadelphia, Lindsay & Blakiston, 1877.

In its present condition this book is essentially different from its former self, and is, to our thinking, a very good book for the inexperienced microscopist. Its text is well written, concise, and comprehensive; but its especial value is to be found in the three hundred and five illustrations, whose scope embraces almost every class of subjects the amateur is likely to desire knowledge upon. Much less full than the *Micrographical Dictionary*, it may well serve as an introduction to that encyclopædia, and its comparatively trifling cost puts it within the range of those individuals whose real or imagined impecuniosity shuts them off from the great reservoir of microscopic information.

THE PRACTITIONER'S HAND-BOOK OF TREATMENT. By J. MILNER FOTHERGILL, M.D. Philadelphia, H. C. Lea, 1877.

This excellent and novel book is in a measure complementary to the work of Dr. Da Costa, as it certainly is complimentary to himself in its dedication. It is to the treatment of disease what the "Medical Diagnosis" of our great Philadelphia Professor is to the discovery of disease. It does not come at all into competition with the formal treatises upon *materia medica* and therapeutics, but is to be used as supplementary to them. It is not a book for the student, but for the practitioner who has already studied therapeutics from the ordinary stand-point of the individual drug.

Its 570 pages are distributed in twenty-four chapters, and, though dry reading, the enumeration of the subjects of these chapters gives in the briefest possible manner the scope of the work.

The list is—Introduction, Assimilation, Excretion, Body Heat and Fever, Inflammation, Anæmia and Plethora, Growth and Decay, Abnormal Growth, Blood-Poisons, Acute and Chronic Diseases, Diabetes, Rheumatism and Gout, Diatheses and Cachexia, Action and Inaction, Circulatory System, Respiratory System, Digestive System, Urinary System, Reproductive System, Cutaneous System, Lymphatic System, Nervous System, Public and Private Hygiene, Food in Health and Ill Health, The Medical Man at the Bedside. Under each subject the physiology and pathology, so far as they bear on treatment, are reviewed, then the action of remedies is considered, and finally is given their practical application, with formulæ.

The book being by its author, it is scarcely necessary to say aught in regard to its style. It is, however, allowable to state that it is one of the most attractively written of his works,

and, what is still more important, that it is a thorough digest and well-condensed putting forth of all of modern practice which has stood the test of the large experience of its author. Much of it is not merely fresh, but absolutely novel; and we cannot commend it too highly to every man who is well grounded in a scientific knowledge of drugs and their actions. Placed before this, it is the apex of a pyramid, beautifully wrought, but lying on the ground, useless and unsightly, for want of a base.

Whilst praising the book highly, we do not want to give the impression that everything in it accords with our own views; so long as men are mortal there will be differences of opinion; but Dr. Fothergill's work seems to represent as near as is possible the best general therapeutics of the age. We are sorry to see him trembling before the mercurial bogie, which has been shaped into such horrible misshape by various authorities.

It may be true that "life-long misery, a hyperæsthetic nervous system, erethism, defective teeth, and a whole host of evils, follow in the train of mercury when administered freely to children;" but in a good many thousand cases we have never seen any thing of the sort; and we believe that such assertions, especially when coupled with the statement that mercury is unsuited to other ailments of infancy than syphilis, do harm. In the chapter on diarrhœa the author makes no mention of the value of repeated minute doses of calomel in the form of diarrhœa clinically characterized by light-colored stools. In the cool climate of England this point may not be of much importance, but assuredly the practitioner who does not understand this use of mercury fights our summer diarrhœas with one hand tied.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. By J. FORSYTH MEIGS, M.D., and WILLIAM PEPPER, M.D. Sixth Edition. Philadelphia, Lindsay & Blakiston, 1877.

This new edition of an old favorite is somewhat of an improvement upon its former self. The additions are not numerous, but care has been especially exercised upon the text. If there be any fault at all in this most satisfactory work, it is in a tendency to diffuseness; and we trust that the authors for the next half-century will continue to hammer at the wording, until it is as solid as that of the United States Dispensatory,—the fairest result of forty years' squeezing we know of.

AN ATLAS OF TOPOGRAPHICAL ANATOMY AFTER PLANE SECTIONS OF FROZEN BODIES. By WILHELM BRAUNE. Translated by EDWARD BELLAMY. Philadelphia, Lindsay & Blakiston.

This English book with a Philadelphia imprint is either a very large royal octavo or else a small quarto, and is a minified reproduction of the master-work of Prof. Braune, in which

the plates are of life-size. It contains thirty-one plates, representing nearly all of those of the original work, and has forty-six wood-cuts in the text. It is a magnificent book, and a very valuable contribution to medical literature, but belongs rather to the luxuries than to the necessities of professional life. To the surgeon it must be a very useful companion, enabling him to answer anatomically questions much more rapidly than he can from the cadaver, and with comparative accuracy.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, M.A., M.D. London, Macmillan & Co., 1877.

A careful examination of this book has resulted in a verdict of "well done." There is a freshness about it which can only come from thorough acquaintance with physiology both from the laboratory and literary point of view. It represents the latest aspects of the subject, is well and clearly arranged and written, and for the student is almost, we are inclined to write absolutely, the best book in the language. In its 550 pages the practitioner may find most agreeably stated all that is firmly established in physiological science, and may get also fair views of the fields where the conflicts are still raging.

GLEANINGS FROM EXCHANGES.

TREATMENT OF RHEUMATIC FEVER AND OTHER FEBRILE DISEASES BY SALICIN (*The Lancet*, January 20, 1877).—At a recent meeting of the Clinical Society of London, Dr. Hermann Weber read a paper founded on cases illustrating the treatment of rheumatic fever and some other febrile diseases by salicin and its congeners. The cases included fifteen of rheumatic fever, four of gonorrhœal rheumatism, two of acute gout, four of typhoid fever, two of ague, two of the hectic of phthisis, one of quinsy, and two of scarlet fever. Dr. Weber arrived at the following conclusions: 1. That salicin and its congeners are powerful antipyretics, equal to quinine, with the exception of the effects of the latter upon ague, against which they are comparatively powerless. 2. That they are of more general value in the treatment of rheumatic fever than any remedies hitherto tried, although they are not applicable in all cases, and thus not always able to prevent complications. 3. That their antipyretic influence may be usefully employed in other febrile diseases, such as typhoid fever, in combination with other modes of treatment, such as alcohol and bathing. 4. That their use is occasionally attended by accidental symptoms, some of these being unimportant, such as noises in the ears, various degrees of deafness, giddiness, nausea, abundant perspiration, and possibly a cutaneous eruption; while others are graver, such as vomiting after each dose, delirium, and

collapse, pointing to the necessity of caution and watchfulness, especially in states of heart-disease and exhaustion. 5. That there is no essential difference in the action of the three remedies mentioned, but that salicylate of sodium, being more soluble and more easily absorbed, exercises a more rapid effect, but requires to be given in somewhat larger doses than either salicin or salicylic acid; that of the two others, salicin is so far preferable in that its taste is less disagreeable and it is more soluble than salicylic acid, which in its undissolved condition seems to give rise to local irritation of the fauces and stomach.

CURE OF ANEURISM BY COMPLETE TEMPORARY PRESSURE (*The Lancet*, January 20, 1877).—The *Lancet* comments editorially upon the method of treating aneurism which has only lately been introduced into practice, namely, the employment of complete temporary pressure by means of Esmarch's bandage. Three cases have been recorded. The aneurisms had existed three months, between four and five months, and three weeks, respectively. One is described as being as large as a hen's egg; another is compared in size to a small orange; the third is stated to have been "two inches long, filling the upper half of the space." The elastic bandage was applied firmly from the foot to the ham, then loosely over the ham, opposite the site of the aneurism, and again firmly to the thigh above. It was left on for fifty minutes in two cases, for an hour in the other. Afterwards the circulation in the limb was partially controlled by a compressor on the femoral artery for a few hours as a precautionary measure. As soon as the aneurism was examined after the removal of the elastic bandage, the tumor was felt to be firm and free from pulsation in each case, and then rapidly diminished in size. Such a remarkably successful result in three consecutive cases demands for this mode of treatment the careful consideration of all surgeons. Its advantages appear so great that if it prove to be safe and adapted for the majority of cases its adoption will soon become general. It is rapid in its action, easy of application, requires neither complicated apparatus nor a large staff of assistants, and may therefore be employed in private practice as easily as in hospitals. The period of its application being comparatively short, the administration of ether would be justifiable if the pain which is generally complained of after a short time prove unduly severe. Compression for an hour seems to be quite adequate to insure complete stasis in the aneurism, and it is well known that the lower limb may be kept bloodless for much longer periods than that without any bad results following.

VISCERAL SYPHILIS (*The Medical Press and Circular*, January 31, 1877).—At a recent meeting of the Pathological Society of London, Dr. Greenfield brought forward specimens

taken from a series of *post-mortems* on twenty-two cases of syphilis. An analysis of these cases showed that of those who died from the direct effect of the disease, the majority were comparatively young. The causes of death in fifteen of these cases were of a syphilitic nature, viz., thrombosis of the cerebral arteries in five cases, thrombosis of the pulmonary artery in one, syphilitic disease of the larynx in two, lardaceous kidneys in three, gummata in the brain and dura mater in one, syphilitic stricture of the colon in one, hæmoptysis in slight phthisis one, and pyæmia one. Lardaceous degeneration of the viscera was absent in eighteen out of twenty-two cases, but in two cases it was extremely advanced in all the organs. In ten of the cases there were no marks of skin-eruptions or ulceration, in four there were several cicatrices on the legs, and in eight the skin was not thoroughly examined. But it was remarked that there was not the slightest evidence of skin-affections in those cases where the cerebral disease was most marked and extensive, and that where the skin was most affected there was little syphilitic infiltration of the internal viscera, lardaceous degeneration being alone present. Marked changes in the skin were observed in connection with changes in the larynx, rectum, and lungs; and in several cases there was marked atheroma of the aorta. In one specimen of syphilitic disease of the cerebral arteries, a small artery in the pia mater near a gumma in the brain presented the appearance of a whitish fibrous cord, and a section of it showed that the walls of the vessel were so thickened as to leave only a narrow channel. The outer coat was infiltrated with a cellular growth, the inner coat was remarkably thickened, while the middle coat was but little affected. The growth in the inner coat was found on closer examination to resemble a fully-developed gummatous growth, with capillaries of new formation running through it. In another specimen the thickening seemed to involve all the coats, although the inner coat may have been mainly involved. With regard to gummata, whose high degree of organization and sudden decadence are very remarkable, Dr. Greenfield thought that their degeneration was due to partial occlusion of the small arteries by proliferation of their endothelium.

CASTRATION IN SPERMATORRHEA (*Detroit Medical Journal*, January, 1877).—Dr. F. H. Spalding reports the case of a boy, æt. 14, who had been a persistent and excessive masturbator since infancy, and whose mind became so affected that it was necessary to send him to a lunatic-asylum. All other means having been unsuccessfully tried, castration was at last advised as a *dernier ressort*, and was performed. A change in the mental condition was almost immediate, the child's health improved, and two years later he was competent to earn his own livelihood.

CASE OF HYPOSPADIAS CURED BY OPERATION (*Virginia Medical Monthly*, February, 1877).—Dr. T. B. Wilkerson reports the case of a man, æt. 26, who consulted him in reference to a condition of hypospadias.

After a careful examination of the penis, two minute orifices could be detected, one at the natural outlet of the canal, the other about half an inch back of the corona glandis,—a slit-like cleft in the under portion of the organ, with everted edges. It required a patient effort of nearly ten minutes to introduce the smallest-sized pocket probe into either one of these orifices. There was considerable morbid excitability about the parts, and the manipulatory efforts brought on frequent spasms of the bladder. As soon as voluntary effort at urination was made, the penis would erect itself, completely closing the minute orifices so that not a drop of urine could escape; but when the attention of the patient was directed to other matters, a discharge of urine commenced to flow guttatum.

The patient being under the influence of chloroform, a small grooved probe, about the size of an ordinary sewing-needle, was passed into the meatus, through the constricted portion of the urethra, extending about an inch in length. A narrow-bladed bistoury was then passed down the groove of the probe, and the urethra was divided upwards towards the dorsum of the penis, the incision being made large enough to admit a No. 11 catheter. The probe and knife were then removed, and a silver catheter was passed into the bladder, which was allowed to remain in ten minutes and was then withdrawn. The urethra was cleared of all blood by the use of the syringe. The catheter was then repassed and secured in the bladder. A silver probe of the smallest size, having been dipped into strong nitric acid, was passed through the fistulous tract on the under surface of the penis, completely cauterizing its surface and the everted edges. The fistula was then accurately closed by a small piece of tissue-paper saturated in collodion, and an extra layer of collodion was put on after the first had dried. The catheter remained in the bladder four days, when it was removed and introduced every morning for two weeks.

The fistulous orifice closed entirely. The patient has had no trouble in passing a full stream of water. There has been no recontraction of the urethra; and the cure now, after the lapse of ten months, seems complete.

CASE OF VESICAL CALCULUS AND MEDULLARY CANCER OF THE PROSTATE (*The St. Louis Medical and Surgical Journal*, January, 1877).—Dr. S. H. Gray, of West Meriden, Conn., reports at length a case of great interest both from its rarity and from its serving as an illustration of homœopathic surgery. Briefly stated, the facts are as follows. A man, æt. 36, complaining of incontinence of

urine, irritable bladder, etc., consulted a homœopath, who endeavored to pass a catheter, and, as the autopsy finally showed, succeeded in thrusting it through the floor of the urethra into the centre of the prostate, which was softened and breaking down through cancerous disease. Subsequently an extensive internal urethrotomy was made by the same operator. After this diarrhœa commenced and became continuous, involuntary evacuation occurred frequently, and for three weeks the urine ceased entirely to appear at the orifice of the urethra. This state of things was pronounced by the homœopath to be very favorable, as "it gave the bladder a rest." The subsequent progress of the case was somewhat variable, but death finally resulted from uræmia. The autopsy disclosed a large medullary cancer of the prostate, a very small bladder with thickened disorganized walls tightly contracted over a vesical calculus weighing one ounce, a sac formed by the cellular tissue in the neighborhood of the cancer and containing two or three quarts of urine, and a large false passage extending from the floor of the urethra into this sac.

PERITONITIS IN CHILDREN (*The Boston Medical and Surgical Journal*, February 1, 1877).—Dr. D. H. Hayden gives the following abstract of the views of S. Kersch in reference to peritonitis in children:

In this disease, which is often extremely difficult of diagnosis, the author calls attention to two symptoms which are quite characteristic of the disease. In the first place there is the impossibility of lying with the legs stretched out, the patient having both thighs flexed upon the abdomen, and, consequently, he cannot be made to stand on his feet. The second important aid to diagnosis is the respiration. Even before a peritoneal exudation is demonstrable, sharp pains, which arise in both hypochondria, make inspiration very difficult, and should there coexist a bronchial catarrh, coughing is impossible. Expiration goes on, unimpeded. Such children can cry quite loud; but the pauses between the cries are long, being filled out by a series of very short inspiratory acts. This difference between inspiration and expiration during crying is the most important diagnostic symptom in the peritonitis of children, and is never absent.

The prognosis is less unfavorable than with adults. Although a subsequent cheesy infiltration of the lungs is to be feared, yet this process with young children has not the same serious significance as with older persons. In such cases, when the child receives proper care and treatment, cicatrization or calcification of the infiltration often takes place. In forming the prognosis the author's many years' experience has demonstrated that the sex of the patient must be taken into consideration, as with little girls sterility remains behind notwithstanding they may otherwise be restored to perfect health. The author has

observed ten such cases between five and fourteen years of age.

The author's treatment consists in quinine, as many grains as the child is years old, once or twice daily, and the application of leeches followed by cold-water dressings, which must be rapidly changed, applying over these dressings a piece of gutta-percha paper to protect the bedclothes. Morphine is also employed, symptomatically.

There sometimes takes place so large an exudation in the abdominal cavity as to require the use of the trocar; and one must not wait too long before employing this instrument, as from the long continuation of such a collection of fluid œdema of the lower extremities is apt to ensue, and by pressure on the large abdominal vessels a new exudation is excited. In these cases, too, the strongest diaphoretics or diuretics are powerless until the larger portion of the fluid has been evacuated. The author recommends that the wound be left open for a time, otherwise a second puncture is often necessary. Several punctures are sometimes required, and recovery, notwithstanding, takes place.

MISCELLANY.

WASHING OUT THE STOMACH.—Privat-docent Oser, in a recent number of the *Wiener Medizinische Presse*, says that two years' additional experience has confirmed him in the belief that an elastic tube is much better for the purpose of rinsing out the stomach than the gutta-percha sound hitherto in common use. The tube is of india-rubber, two metres long, and with perfectly smooth surface; both ends are rounded off by heat; two sizes are employed, the smaller tube having a lumen of eight millimetres and a wall two and a half millimetres thick, and the larger one a lumen of ten millimetres and a wall of three millimetres. This latter is preferable, as it is less compressible and allows the passage of larger substances through it. The tube is passed at the first sitting by the patient himself, who takes it between the forefinger and thumb of the right hand, lays the end on the back of the tongue, makes a swallowing act, and then pushes it gently along, during successive pauses between the acts of swallowing, deeper into the œsophagus. Patients learn the manipulation at the first sitting; the method of introduction causes decidedly less annoyance than the ordinary passage of a tube by the physician himself. The patient has less anxiety, gains confidence quicker in the manipulation, and the reaction is less. There is no danger of injury to the mucous membrane. After a few trials he can readily feel the tube touch the lower end of the stomach, and quickly recognizes the depth to which it should be passed to best allow of a

free evacuation of the contents of the stomach. The action is on the principle of the siphon: the tube when fully introduced is pressed together between the fingers at the lips, and the free end is filled with liquid through a tunnel. If the end is now sunk below the level of the stomach, the fluid flows out of the stomach in a strong stream. If the stream is interrupted by a contraction of the œsophagus or diaphragm, the tube is withdrawn about a centimetre and then pushed back; the stomach is thus induced to contract, and a beneficial influence upon the muscular coat is induced. In dilatation of the stomach from any cause, and in chronic catarrh, it is of service. Unfortunately, there are certain cases in which from the first the pharynx is so irritable that the procedure cannot be perfectly carried out, as the contraction is so great and the vomiting so persistent that the tube does not enter. Here, as well as in those cases where it is necessary to pump out solid particles of large size, it is necessary to have recourse to the stiff tube, as the exhaustion of air causes the flexible tube to collapse.—*Boston Med. and Surg. Journ.*

PICRIC ACID FOR THE CURE OF SORE NIPPLES.—Dr. Charrier, in the last number of the *Courrier Médical*, suggests a new remedy in sore nipples. He employs two dilutions—

A. Distilled water, 100 grammes; picric acid, 1 gramme, 30. *B.* Distilled water, 100 grammes; picric acid, 1 gramme. He first washes the breast and nipple with tepid water, and then applies to the fissure solution *A*, and after a short time washes the part for four minutes with solution *B*. It does not interfere with suckling, as children continue to take the breast with avidity.

DRY PREPARATIONS.—For preparing rapidly bones and ligaments for museum purposes, Dr. L. Frederick (*Bulletin de l'Académie Royale de Belgique*) recommends that after the soft parts have been taken away, except the ligaments, the preparation be washed in water, dehydrated by alcohol, and then plunged into essence of turpentine. After two or three days' maceration in this fluid, the skeleton is placed in the position in which it is designed to keep it, and dried in the air. In drying, the bones and ligaments become beautifully white, and the whiteness increases as time passes. The same process gives less satisfactory results for muscles. For a parenchymatous organ, on removing it from the turpentine bath, Dr. Frederick plunges it into melted wax or paraffin during half an hour to two hours, till the bubbles of turpentine have ceased to pass off. When withdrawn and cooled, the piece resembles a wax model, but is far superior in its minor details: the color of the organ persists.

ENDURANCE OF THE REINDEER.—In one of the palaces in Sweden there is a picture of one of these animals, which is preserved with

great care, from the fact that the animal from which it was painted drew the sledge of an officer, with important dispatches, the distance of eight hundred miles in forty-eight hours!—Prof. Tenney, in *Popular Science Monthly* for April.

DR. POGGENDORFF.—On January 25, Dr. Johann Christian Poggendorff, the illustrious Professor of Physics in the University of Berlin, died in that city, at the ripe age of eighty years. Poggendorff began life in a pharmacy, which he entered at the age of sixteen, and continued therein eight years. Upon leaving the pharmacy, he entered the University of Berlin, and devoted himself exclusively to the study of chemistry and physics: about this time he published his first paper, others followed in quick succession, and at the present time nearly one hundred and fifty papers are attributed to him in the Royal Society's catalogue. In 1824, he undertook, on the death of the editor, the work of editing the *Annalen der Physik und Chemie*, of which he lived to receive the jubilee volume.—*The Doctor*.

THE PSYCHOLOGY OF LAUGHTER.—Perhaps the psychology of laughter has never been better expressed than by Hazlitt:

"Man," says the writer, "is the only animal that laughs, for he is the only animal that is struck with the difference between what things are and what they ought to be."—*The Doctor*.

THE Medical Department of the Syracuse University is founded upon the idea of the co-education in medicine of the sexes and the graded system of study for three years. According to the recent catalogue, its students number thirty-one males and seven females.

IN Boston and elsewhere a crusade is threatened against the Spitz dog, because he is thought to be especially prone to hydrophobia. This is probably a mistake; but he is a useless animal, very apt to bite and be generally cross and ill-natured. Hand him over to the vivisectors.

DR. WARLOMONT, of Brussels, states that, out of more than ten thousand children vaccinated with animal virus, not one was attacked with smallpox during the severe epidemic of 1870.

IN November last the Medical Society of London unanimously resolved "to exclude persons of the female sex from either becoming fellows of the society, or from being introduced to it as visitors."

THE French Pharmacopœia requires that all medicinal substances be weighed in the preparation of prescriptions.

THE law officers of the Crown have decided that under the Act of August last the Senate of the University of London has the power to examine women for degrees, and that such as pass become members of convocation, but have not the right to take part in the government of the University.

IN January, at the age of 52, died Prof. Hofmeister, of the University of Tübingen, the greatest of vegetable physiologists and embryologists.

THE celebrated biologist, Karl Ernst von Baer, died recently, at the age of 83.

IT is proposed to tax the physicians of San Francisco who have an income of three thousand dollars and upwards, forty dollars a year. They object.

DR. COWLING, of the *Louisville Medical News*, has been elected to the Presidency of the College of Physicians and Surgeons of Louisville,—evidence that the power of "the Siamese-twin-school" faction of the Louisville Medical College is waning.

THE *Buffalo Medical and Surgical Journal* has revived under the effects of a transfusion.

NOTES AND QUERIES.

SALICIN IN RHEUMATISM.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

I have employed salicin in the treatment of acute articular rheumatism in three cases, and I will give you the result of the treatment. In the first case, a girl, æt. 9 years, and the second attack,—the first one lasting for two weeks,—I found, December 6, the temperature $104\frac{1}{2}^{\circ}$, with pain and swelling of knee and ankle, also pain over the heart, accompanied with friction-murmur. I ordered magnesia, to be followed with alkalies in full dose, and in six hours by salicin, gr. xv, to be repeated every two hours. When this treatment had been pursued two days, I found almost complete recovery, and the dose of salicin was lessened, and was not required after the third day. Case 2. Boy, æt. 10 years. The same course of treatment was followed as in the previous case, with the same success, in three days. Case 3, February 2. This is the same girl I saw in December, and the same treatment was pursued; but at the end of the second day my stock of salicin was exhausted, and on the fourth day I again began the administration of salicin as before, and on the fifth day I pronounced the case well.

I give the salicin in water, and from my experience believe that the dose required is not less than twenty grains for an adult, to be repeated every two hours, and continued for two days or until pain is entirely relieved. Not a single unpleasant symptom has followed the use of this remedy in my cases, and in the last case the patient was able to walk about the room during the whole course of the disease.

S. W. MORRISON, M.D.

LEWISVILLE, Chester Co., March 20, 1877.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 11, 1877, TO MARCH 24, 1877, INCLUSIVE.

RANDOLPH, JNO. F., SURGEON.—Assigned to duty at Fort Trumbull, Conn. S. O. 61, Military Division of the Atlantic, March 17, 1877.

GREENLEAF, C. R., SURGEON.—Assigned to temporary duty in the office of the Medical Director of this Department. S. O. 40, Department of the Gulf, March 6, 1877.

SKINNER, J. O., ASSISTANT-SURGEON.—Assigned to duty at Fort Johnston, North Carolina. S. O. 49, Department of the South, March 13, 1877.

WOOD, M. W., ASSISTANT-SURGEON.—Assigned to duty at Cantonment Reno, Wyoming Territory. S. O. 34, Department of the Platte, March 13, 1877.

GARDNER, E. F., ASSISTANT-SURGEON.—Assigned to duty at Camp Hancock, Dakota Territory. S. O. 31, Department of Dakota, March 13, 1877.

ANDREWS, W. C. C., ASSISTANT-SURGEON.—Assigned to duty at Fort Stevens, Oregon. S. O. 23, Department of the Columbia, March 7, 1877.

HASSON, A. B., SURGEON.—Died March 19, 1877, at Fort Trumbull, Conn.